

REMARKS

Claims 1-16 remain pending in this application. Claims 1 and 8 have been amended hereby to correct minor matters of form. No substantive changes have been made to the claims. For the reasons stated below, Applicants respectfully submit that all claims pending in this application are in condition for allowance.

In the Office Action, claims 1-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Allison et al. (WO 200271234 A) ("Allison") in view of Gould et al (U.S. 2004/0199592 A1) ("Gould"). This ground of rejection is respectfully traversed.

The present invention, as recited in the claims, is directed to methods for detecting undesirable events that may occur in a network. More specifically, the claimed embodiments of the present invention are configured to detect unwanted "spam" messages or undesirable routing loop conditions. This is accomplished by keeping track of not only the number of times that a message is received from a given source (and perhaps destined for a given destination) using a counter, but also of what time each given message is received by using timestamps.

In accordance with the pending claims, an array of timestamps is provided for each source (and/or destination) address, and this array is processed to remove entries that fall outside of a sliding timing window. The counter is decremented for each timestamp array entry that is removed. In this way, it is possible to better determine whether a threshold number of messages from the given source (or destination) has been received over a predetermined period of time.

As explained in, e.g., paragraph [0019] of the specification, "[w]ith the counter and timestamp information, it is possible in accordance with the present invention to implement an efficient "jumping window" of fixed size by using a "garbage collection method" that removes all entries older than a fixed window size in regular intervals." (Emphasis added.) Without the expressly claimed "timestamp array" aspect of the invention (along with the counter aspect), any such "garbage collection method" cannot be efficiently performed.

Allison discloses a method for preventing short message service (SMS) message flooding. It is acknowledged in the Office Action, however, that Allison does not disclose the

"array of timestamps" feature of the claimed invention. For this feature, the Office Action cites to Gould.

Gould discloses a system and method for managing e-mail message traffic. Paragraphs [0035]-[0038] describe a methodology in which metrics of a first email message from a given IP address are stored in a datastore. Those metrics include a timestamp for that message and a counter associated with the IP address. When a subsequent email message is received from the IP address, the counter is incremented and it is determined if the counter has exceeded a threshold, and if so, an email message rate is calculated

based on the time-stamp data of the e-mail message count 1 (the first e-mail message). The time represented by the time stamp of the first message is subtracted from the time represented by the timestamp of the newly arrived message (e-mail message "n") to compute the time period over which the "nth" message arrived. The e-mail message rate is determined by dividing "n" by the computed time period.

(Paragraph [0037] of Gould.)

Based on the foregoing, it is quite clear that Gould does not describe a methodology in which an array of timestamps "including a timestamp entry for respective source counter increments" is stored for further processing. Indeed, Gould specifically describes a methodology in which timestamps of individual messages are ignored until a counter threshold is exceeded. Only then is the timestamp of the nth message determined and processed in connection with the timestamp of the first message. Notably, the timestamps of all intervening e-mail messages are irrelevant in Gould. In contrast, in the claimed invention, the timestamps associated with each message counted by the counter is stored for processing ("the array of timestamps including a timestamp entry for respective source counter increments"). See also paragraph [0021] of the present application.

With that rich data, it is then possible, in accordance with the claimed invention, to remove entries in the array of timestamps that are older than a fixed window, and decrement the counter for each entry so removed. Such steps are impossible to implement in a system or

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method described by Gould because Gould simply does not store the respective timestamps of messages associated with source counter increments. In short, Gould does not disclose or teach any type of timestamp array like that required by the claims of the present application.

Since Allison is acknowledged not to disclose the timestamp array feature of the claimed invention and Gould does not disclose this same feature for the reasons outlined above, the §103(a) rejection of the claims based on Allison and Gould should be withdrawn.

In view of the forgoing, all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone applicants' undersigned representative at the number listed below.

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Respectfully submitted by:

EDELL, SHAPIRO & FINNAN, LLC
CUSTOMER NO. 27896
1901 Research Boulevard, Suite 400
Rockville, MD 20850
(301) 424-3640

Lawrence D. Eisen/
Lawrence D. Eisen
Reg. No. 41009